ABOUT X RAYS

A Statement of the Facts Relating to New Photography.

SOME POPULAR ERRORS CORRECTED

Wonderful Results Attained in the Opinion of Scientists.

THEORIES AND POSSIBILITIES

THE CURIOUS FORM of radiation discovered by Prof. Roentgen of Wurzburg University continues to attract much attention, the scientific world being largely occupied with the question, "What is it?" while the general public is more interested in the question, "What will it do?" Reports of experiments by Prof. Roentgen and his followers have made one answer to the latter question familiar—the rays discovered by him will pass through many substances that are opaque to ordinary light, and since they will affect a photographic plate just as light does, shadow pictures of objects inclosed in opaque matter may be made. The word "photograph" applied to these shadow pictures is unfortunate, as by a photograph we usually understand a picture of an object taken by light reflected from that object. No such picture can be taken by the newly discovered radiations. They cannot take, for instance, a full-face picture of a man, though they can throw a shadow of his profile on the sensitive plate. And since they can traverse flesh more easily than bone, the bones in the shadow picture of a man's hand stand out black, while surrounding flesh appears dimmer.

To this somewhat sensational discovery cathode rays, or that part of them capable of taking photographs, or perhaps a second kind of rays generated by them, will pass not only through an aluminum window, but through the glass sides of the tube itself and through most solid substances, and that they will so pass with different degrees of ease. If they passed through all substances alike, the shadow-pictures already referred to could not be taken; it is only because, for instance, the bones are more opaque to them than the flesh that we can make a shadow photograph of the skeleton of the hand.

The actual discovery was made by accident, and in his original description of it, read at Wurzburg last month, Prof. Roentgen does not dwell particularly on the photographic possibilities. He made the discovery by noticing that a phosphorescent substance near a Crookes tube over which a cloth had been thrown gave out a gleam whenever the current was sent through the tube, although the cloth prevented the tube's light from being seen. The discoverer is decidedly of the opinion that the rays which pass the glass walls of the tube are not the cathode rays, but a hitherto unknown kind of rays generated by the cathode rays in the glass itself. Hence he calls them the X rays, since the letter X is used in algebra to designate an unknown quantity. He bases his conclusion largely on the fact that a magnet will not deflect the new rays, while its power over the cathode rays is one of their most peculiar characteristics. Others note the fact that Lenard discovered some time ago that the cathode rays were not simple, but made up of several different kinds of radiation, some of which were deflected by the magnet more easily than others.

Roentgen suggests, in accordance with the general German belief, that the cathode rays are a kind of light, or at least akin to light, that the new rays are vibrations lengthwise in the ether, instead of crosswise, as those of ordinary light are supposed to be. Such vibrations have long been looked for by physicists, and it is natural that any new phenomenon should be ascribed to them. But Roentgen himself admits that there is not yet any positive evidence for his view.

The discovery once made, the experiments were quickly repeated and amplified all over the world, since they require no very delicate manipulation nor costly apparatus. In this country they have been performed with great success by Professor Wright and Mr. Bumstead of Yale, by Professor Trowbridge at Harvard, by Professor Pupin at Columbia, and by Thomas A. Edison.

The possible use of the Roentgen shadow-photography in surgery was suggested in the first reports of the discovery. Professor Wright has succeeded, by its means, in locating a large number of shot in the body of a rabbit, and in Montreal a bullet was found in a man's leg by the same means.

One direction in which the invention promises to be particularly useful is in the detection of flaws in metal, as in castings,

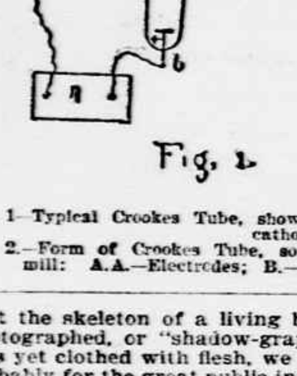

Fig. 1.

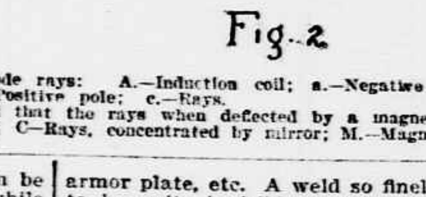

Fig. 2

Fig. 1—Typical Crookes Tube, showing cathode rays: A.—Induction coil; a.—Negative pole, or cathode; b.—Positive pole; c.—Rays.
Fig. 2.—Form of Crookes Tube, so arranged that the rays when deflected by a magnet turn a mill: A.A.—Electrodes; B.—Windmill; C—Rays, concentrated by mirror; M.—Magnet.

that the skeleton of a living being can be photographed, or "shadow-graphed," while it is yet clothed with flesh, we are indebted probably for the great public interest shown in Prof. Roentgen's discovery, for that discovery is only the latest development of a series of investigations that have been going on for the past thirty years in England and Germany, none of which have attracted great popular attention, although they have been eagerly followed and discussed by students.

Ever since the mercury air pump was made so perfect that nearly all the air could be pumped out of a glass bulb, the behavior of the remnant has been noticed and wondered at. It is so peculiar that the air remaining in such high vacua is often said to be in a "fourth state of matter," the other three states of matter being respectively the solid, the liquid and the gaseous. If two metal points be soldered into the bulb so that a rapidly alternating current of electricity can be passed through the gas from an induction coil we have what is called a "Crookes tube," so named from William Crookes, the distinguished English physicist and chemist, from whose experiments the first clear light on these phenomena was gained. When the exhaustion of the tube is sufficiently high there proceed from the negative electric pole (called by physicists the "cathode") faint rays or streamers, which have been named "cathode rays." These move in straight lines and cause many objects on which they are directed to shine with a wonderfully beautiful phosphorescent light. They also exert pressure, as was beautifully shown by Crookes, who constructed one of his tubes with a miniature glass railway within it, on which rolled a little wheel like a windmill. When the cathode rays struck this the wheel rolled rapidly from one end of the tube to the other. The stream could also be shifted about by magnetic attraction. All these discoveries were not so sensational from a popular point of view as the photography of an invisible object, but they were more so to scientists, for at first sight they seemed inexplicable, and they convulsed the scientific world for a long time. Finally most people settled down to acceptance of Crookes' explanation, which considered the "rays" to be streams of air particles (probably actual molecules—the smallest particles obtainable) charged with electricity and shown off from the negative

armor plate, etc. A weld so finely made as to be quite invisible to the naked eye is brought out at once in a shadow-photograph by the Roentgen rays.

The process of making the shadow-photographs, as at present carried out, is of the simplest. The object is placed on the plate-holder, and the Crookes tube is suspended close above, thus throwing a shadow of the object through the plate-holder, on the plate within. The feat may be performed in broad daylight, since sunlight cannot penetrate the plate-holder, while the X rays can.

Shadow photographs have also been made recently by placing the object and the plate between electrodes in open air, without the intervention of the Crookes tube at all. This, however, is not cathode photography, but the development of a form of electro-magnetic photography that has been performed many times in the past two years. More than a year ago a photograph of a coin made in the dark by Professor Sanford of Leland Stanford University by laying it on a photographic plate and subjecting it to a powerful alternating discharge, was reproduced in a large number of technical papers. The sensitive plate in this case is affected by electro-magnetic waves proceeding across it. It is possible, however, that there is a real connection between this process and cathode photography, and that when this connection is known the whole mystery of the cathode rays will be cleared up.

It must not be assumed, however, that all processes of photographing by invisible rays are the same. There are many kinds of invisible rays; for instance, those of invisible heat, as from a stove that is not heated to redness. It is now possible to photograph with these last, as well as with the invisible ultra-violet rays of the extreme upper part of the spectrum. The Roentgen discovery, like most widely noticed discoveries, has been productive of a large amount of sensational predictions and foolish suggestions, many of them the result of a partial knowledge of the subject, although some may perhaps bear fruit in new discoveries. The hope that great practical results will follow in the way of the photography of the interior of solid bodies seems hardly warranted by anything that has been done so far. The possibility that the rays may have some peculiar effect on the human system has excited interest, but none has yet been discovered, although Thomas A. Edison has announced that he

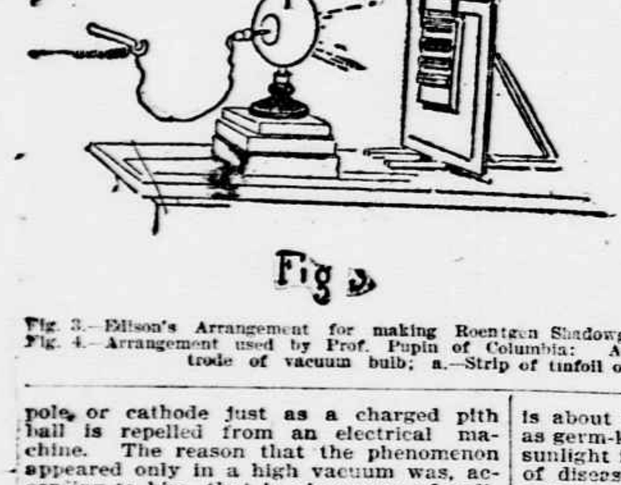

Fig 3.

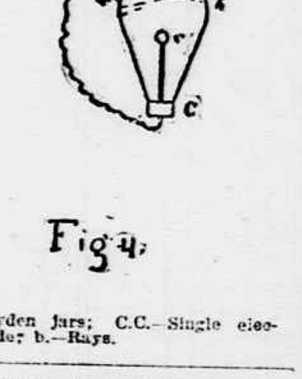

Fig 4.

Fig. 3.—Edison's Arrangement for making Roentgen Shadowgraphs.
Fig. 4.—Arrangement used by Prof. Pupin of Columbia: A.B.—Leyden jars; C.C.—Single electrode of vacuum bulb; a.—Strip of tinfoil on outside; b.—Rays.

pole, or cathode just as a charged pith ball is repelled from an electrical machine. The reason that the phenomenon appeared only in a high vacuum was, according to him, that in air or gas of ordinary density even the density of the so-called "vacuum" under the bell of an old-fashioned air pump, the molecules are not free to move for sensible distances without striking against one another—their "free path," in other words, was too small. This explanation has been given without comment in most of the orthodox books on physics. But about two years ago German experimenters threw a bombshell into the English camp by showing that the cathode rays would pass through thin films or sheets of certain metals, and that by inserting an aluminum "window" in the glass tube they could even be made to pass out into ordinary air. Hence, it was argued, they could not be streams of molecules, but must be a kind of light, and Lenard, one of the German investigators, pointed out, in additional support of this view, that the rays would produce photographic impressions. If he had followed this up Roentgen's discovery would have been antedated. As it is, these experiments have again thrown into doubt a matter that was once thought by many to be definitely explained. The English stand by Crookes, the Germans by Lenard, and each side has obtained new experimental evidence that only adds to our perplexity. If the rays are streams of electrified gas how do they strike through solid objects and take photographs? If they are a kind of light why do they drive windmills and follow a magnet?

It can now be seen that Roentgen's discovery was only the logical outcome of a long series of previous experiments. To say this is not to belittle him, for this is the usual course of discovery and invention. Roentgen's discovery is that the

is about to experiment on their properties as germ-killers. As is well known, ordinary sunlight is fatal or injurious to the growth of disease germs, and the new rays may possibly be more so. During a recent attempt to photograph a mouse with the rays, the animal, which was supposed to be drowned, revived, and this incident was made the most of, in a sensational manner, but the experimenter himself said that he believed the rays had nothing to do with the mouse's recovery.

One of the directions in which new discoveries may follow is that of rendering the image or shadow cast by the rays visible to the eye. A process proposed by Mr. Thompson, a New York electrical engineer, is to receive the shadow picture on a surface covered with a fluorescent substance instead of on a photographic plate. Fluorescence would be excited in varying degrees, according to the proportion of the rays transmitted by the object, and a shadow picture of it would thus appear corresponding to the shadow-photographs already taken. This process has not been developed in detail, but there seems to be no reason why it should not succeed, although the hopes of the inventor, if, as alleged, he expects by its aid to see the human heart beating in the living body, may never be realized. It must be remembered, however, that in a discovery of this kind delicacy of result depends largely on perfection of detail in the process, and the generation that has seen the development of the modern photograph, together with the kinetoscope, the telephone and the phonograph, need not be surprised at anything in this line. Only the skeptics may be pardoned for wishing to see before they fully believe.

ROENTGEN'S DISCOVERY

Prof. H. M. Johnson Makes a Successful Experiment With X Rays.

A Block of Aluminum Proves Transparent to the Unknown Rays, While Glass is Nearly Opaque.

Prof. H. M. Johnson of the Eastern High School, in common with scores of other scientists who are keenly interested in the peculiar discovery made by Dr. Roentgen, succeeded yesterday in making a very distinct demonstration of the power of the X or unknown rays to penetrate various substances hitherto regarded as opaque. Having in his charge, perhaps, the only Crookes' tube in Washington, which he had borrowed a fortnight ago of the Corcoran Scientific School for the purpose of demonstrations before his class in the Eastern High School, he undertook several experiments in the line of Dr. Roentgen's discovery.

Upon an ordinary sensitized plate, in a plate holder laid flat on a table, he put a number of objects, among them a pair of eyeglasses, a steel keyring, a copper cent, a silver dime and a piece of aluminum about three-eighths of an inch thick. Above this the Crookes' tube was suspended and a current of electricity from a six-cell battery was passed through the tube. The resulting plate contained a very well defined silhouette of the copper cent, the eyeglasses and the steel ring. The silver dime was but faintly outlined and the aluminum was almost without place on the plate, showing that to the X rays aluminum has very little opacity, and silver but little more, while glass, copper and steel are comparatively impervious to them. The prints from the plate thus made were made by Prof. Smiley at the National Museum.

"This Crookes' tube which I used," said Dr. Johnson, "is an excellent one of very high vacuum. A singular feature of the experiment was that the current of electricity seemed to pass from the negative pole obliquely across the tube, a distance of about an inch and a half or two inches, instead of toward the positive pole, some five inches away at the other end of the tube. It also appears that there is somewhere a certain strength of current which will produce the best results in experimenting with the unknown rays, and that a strong current will often utterly defeat the object of the experiment. The current I used had a spark about an inch long. A stronger current was less satisfactory.

"Sooner or later I think it will appear, if the theory now advanced is correct, that these unknown rays vibrate longitudinally instead of transversely, as has always been hitherto assumed, that there is a ratio between the length of the vibration in the current and that of the X rays. On the other hand, too, there must, sooner or later, no doubt, appear a mathematical relationship between the molecular condition of substances and these rays. Why the rays should penetrate aluminum so easily and not glass, which to the solar ray is transparent, it is hard to understand, unless it can be accounted for in the theory that there is a certain mathematical relationship of molecules with the length of vibration in the unknown rays.

"Certainly it is a wonderful discovery, and it has at once a practical application in surgery and medical science which makes it of the highest importance. It will not be long before we shall have tables of opacity showing precisely the relative transparency of a large list of objects ordinarily regarded as opaque, and actually so to the solar ray. Whether this new discovery will have any value in other fields of science is now only a matter of conjecture. I have been asked if it could be used in astronomy. That science has so far made use only of the visible solar ray and by the use of the spectroscope, as we all know, has made marvelous discoveries with regard to other worlds than ours. I do not now see how use can be made of these X rays in astronomy, yet it may be done, for it certainly would be no more surprising than the discovery in itself. There is one observation I would like to make in regard to Dr. Roentgen's remarkable discovery, and that is that when in his modesty he names these unknown rays with the algebraic term "X" he is entirely too unassuming, for in a discovery of such great human importance it is no more than just that his own name should be perpetuated by calling these the 'Roentgen rays.'"

WHOLESALE PRODUCE MARKET.

Reaction in Butter. With Higher Prices—Other Products Unchanged.

With perhaps the single exception of butter, prices in the local wholesale produce market remain about the same today as they were a week ago. Butter, however, is about one cent a pound higher today throughout, especially in the best grades. As stated in this column last week, butter was then lower than ever before known at such a season of the year, and a rise in prices was predicted, as it was believed that a reaction would soon follow. That has happened, and it is not unlikely that prices will advance some two or three cents a pound further shortly. While it is probable that the present cold spell will result in an advance of eggs, yet prices in them remain as last quoted. Cheese, too, sells today as it did a week ago, and the same can be said of poultry, although the cold weather may slightly advance prices. Game shows no change, and vegetables, while showing some slight fluctuations, remain practically as they were last week. Beef and other meats show but slight changes. The market is well and abundantly supplied, and a firm, active tone prevails.

In butter the reaction expected for some time has taken place, and while prices have advanced but a cent a pound, the tendency is upward today, and an advance of at least two or three cents is expected. The market is quite firm, and as it is well cleaned up, there is an unusually strong feeling prevailing. Fine goods are short, and much more interest is shown in June creamery. Indeed, the market is well cleaned up throughout. The prices prevailing today are: Fancy Elgin and other western extras, 22 cents a pound; choice, 20; firsts, 18; seconds, 16. Choice bakers' stock, 12½ to 14; New York tubs, 16; dairy print, 19; western, 10 to 15; Maryland and Virginia creamery, 18; dairy packed, 16. There is really no change in the cheese market, although buyers are paying a little more money for flats. However, the quotations are the same as last reported: New York state cream, large, 11½ cents a pound; flats, 12½, and ponys, 11.

As was the case this day a week ago, eggs are selling for from 13 to 14 cents a dozen for nearby fresh, western stock from 12 to 13, about 12 for southern goods. Some refrigerator goods are selling at about 10 cents, and keat or guinea at from 5 to 6. The market is, however, somewhat stronger, and the prevailing cold weather will in all probability slightly advance prices.

Prices in poultry remain about as they were last week. The supply is fairly large, but the demand is equally large. No change in prices is expected, those prevailing today being for drawn turkeys, 13 to 14 cents a pound; live, 9 to 11; live chickens, 8 to 10; dressed, 10 to 12; old stock, dressed, 8 to 10; live, 5 to 7; capons, 16 to 18; ducks, 12 to 13, and geese, 6 to 9.

As may be seen from the following prices, no change in game is observable: Bear, saddle, 10; pheasants, 50; rabbits, per dozen, $1.25 to $2; quail, $1.25 to $2.50; wild turkeys, per pound, 10 to 12; woodcock, each 25 to 40.

Vegetables and fruits show really no change, as may be seen from the following quotations: Cabbages, $5 to $10 per hundred; potatoes, 15 to 35 cents a bushel; sweet potatoes, red, $3 to $3.50 a barrel; eastern shore sweet potatoes, $2.50 to $3 a barrel; yams and haymons, $2 to $3 a barrel; beets, $1 to $2.50 a hundred bunches; yellow onions, $1 to $2 a barrel; kale, 75 cents a barrel; spinach, $3 to $3.50 a barrel; lettuce, $4 to $5 a barrel; carrots, $3.50 to $4 a barrel; strawberries, 40 to 70 cents a quart; cauliflower, $4 to $5 a barrel; turnips, $1 to $1.50 a barrel; Virginia white beans, $1 to $1.50; black-eyed peas, 75 cents to $1 a bushel; celery, 25 to 75 cents a dozen; Florida tomatoes, $3 to $4 a crate; fancy table apples, $2 to $3.50 a barrel; fancy California oranges, $4 to $4.50 a box; Messina, $3 to $5; Valencia, $3 to $3.50; lemons, $5 to $7 a box.

Beef and other meats show only the slight changes in prices which are noticed from week to week. Live cattle selling at from 2 to 4 3-4 cents a pound; lambs, 4 to 5 1-2; sheep, 2 to 4; cows with calves, $25 to $50; calves, 5 to 7 cents a pound, and dressed hogs, 4 to 7.

THE NATIONAL GUARD

Battalion Rifle Match Won by the Engineer Corps.

SCORES OF THE COMPANY MATCH

Current Gossip in Regard to the Next Interstate Drill.

ECHOES FROM THE ARMORY

With the exception of the first separate battalion, the full quota of teams reported in the rifle gallery Thursday evening last for the February battalion match. The representatives of the engineer corps easily carried off the honors, with the sixth battalion team second.

The scores in detail were as follows:

First battalion—Private Wells, 43; Private Klein, 42; Lieut. Beall, 34; Private McIntosh, 40; Sergt. Phillips, 38; Sergt. McCabe, 30; Private Smith, 32; Private Chase, 38; Lieut. Lee, 40; Private Gheen, 42. Total, 381.

Second battalion—Private Brittain, 36; Sergt. Thompson, 41; Private Colloday, 39; Private McTaylor, 47; Private Crist, 45; Lieut. King, 44; Private DuBois, 47; Private Barry, 42; Corp. Webb, 37; Private Lowell, 41. Total, 419.

Third battalion—Capt Shilling, 46; Corp. Lacy, 45; Private Carr, 38; Private McCurdy, 43; Private Lyman, 43; Corp. Wimsatt, 37; Private Higgins, 43; Corp. Steward, 38; Private Powell, 33; Sergt. Shilling, 46. Total, 412.

Fourth battalion—Capt. Hodgson, 41; Lieut. Jacobs, 45; Sergt. Byrne, 44; Private McNulty, 19; Private Dobson, 30; Sergt. Evans, 33; Private Leeman, 29; Private O'Connell, 38; Sergt. Whipp, 32; Lieut. Sabin, 36. Total, 347.

Fifth battalion—Capt. Phebus, 48; Sergt. Archer, 33; Corp. McGinnis, 43; Private Totten, 43; Lieut. Shaw, 48; Corp. Homer, 37; Private Seufert, 34; Private Callan, 42; Private Dennison, 46; Serg. Maj. Bailey, 44. Total, 418.

Sixth battalion—Capt. Simonson, 45; Corp. Whitacre, 40; Sergt. Groome, 44; Sergt. McClain, 43; Corp. Wilcox, 38; Sergt. Davenport, 45; Private Pile, 42; Private Bairstow, 44; Lieut. ——, 47; Lieut. Vale, 42. Total, 430.

Engineer battalion—Maj. Thompson, 43; Sergt. Lanham, 45; Sergt. McLaughlin, 47; Corp. Albertie, 48; Private Williams, 45; Private Rollins, 39; Corp. Sturgis, 43; Private Wright, 44; Private Garrison, 44; Lieut. Holt, 42. Total, 440.

Provisional battalion—Lieut. Beatty, 40; Trumpeter Carroll, 45; Sergt. Stewart, 14; Private Taylor, 23; Private Scharf, 42. Total for five men using carbines, 164; with 5 per cent added for carbines, 172.

Capt. Wiggin, 42; Sergt. Gibson, 38; Sergt. Mattingly, 37; Private Frech, 35; Private Eckstein, 39. Total, 191. Team total, 363.

Discharges Granted.

The dishonorable discharge of Private Bert B. Turnbull, company A, third battalion, now company A, fifth battalion, has been revoked.

Honorable discharges on their own applications have been granted to the following: Private Mills Dean, company A, engineer corps; Private Will Huck, company B, engineer corps; Sergt. Wallace C. Lynn, company C, engineer corps, and Private Robert W. Bowdler, company D, third battalion.

Company Match Scores.

The scores of the second section of the company match for February were as follows:

First battalion, company A—Capt. Williams, 26; Sergt. Phillips, 40; Corp. Chase, 31; Corp. Wooiridge, 16; Pvt. Chase, 40; Total, 153.

Company B—Pvt. Wells, 47; Pvt. Kline, 36; Corp. McCabe, 40; Pvt. Hall, 28; Sergt. Plugge, 35. Total, 186.

Company C—Lieut. Lee, 33; Pvt. Gheen, 43; Corp. Robinson, 27; Corp. Doten, 17; Corp. Smith, 36. Total, 156.

Company D—Lieut. Beall, 44; Sergt. Zea, 27; Pvt. McIntosh, 45; Pvt. Taylor, 6; Corp. McCathran, 20. Total, 142.

Second battalion, company A—Sergt. Thompson, 44; Sergt. Davis, 42; Corp. McCathran, 33; Pvt. Brittain, 43; Sergt. Collins, 33. Total, 195.

Company B—Pvt. Colloday, 49; Pvt. Taylor, 38; Pvt. Crist, 44; Corp. Webb, 43; Sergt. Stokes, 44. Total, 218.

Third battalion, company A—Corp. Wimsatt, 38; Pvt. Carr, 39; Corp. Lacy, 44; Pvt. McCurdy, 42; Pvt. Lyman, 44. Total, 207.

Company D—Sergt. Chandlee, 32; Sergt. Beach, 37; Pvt. Higgins, 40; Corp. Dawson, 35; Sergt. Adams, 35. Total, 179.

Fourth battalion, company A—Sergt. McAnally, 41; Pvt. Bolger, 37; Pvt. Blake, 30; Pvt. Whaley, 40; Pvt. Boucher, 19. Total, 170.

Company C—Capt. Hodgson, 40; Pvt. Williams, 37; Pvt. Thompson, 33; Pvt. McNulty, 43; Pvt. Robbins, 26. Total, 177.

Company D—Sergt. Evans, 42; Pvt. Dobson, 41; Pvt. Leeman, 42; Pvt. O'Connell, 36; Lieut. Stephan, 39. Total, 200.

Fifth battalion, company A—Corp. McLeod, 36; Corp. Tyler, 40; Pvt. Callan, 40; Pvt. Clemmer, 25; Pvt. Davenport, 34. Total, 175.

Company B—Capt. Phebus, 36; Pvt. Dennison, 38; Pvt. Weir, 37; Pvt. Totten, 44; Corp. Seufert, 42. Total, 197.

Company D—Lieut. Leeman, 41; Sergt. Murray, 29; Corp. Horner, 32; Corp. McGinnis, 38; Corp. Kerper, 34. Total, 184.

As to Interstate Drills.

As time passes into history and nothing definite is heard as regards an interstate competitive drill in the near future, the members of at least four interested local companies—the National Fencibles, Morton Cadets, National Rifles and company C, Washington Light Infantry Corps—are manifesting some signs of anxiety. It is generally agreed that the date is ripe for an announcement of the competition, if such an affair is to materialize. Several rumors have proved to be without foundation and today it may be stated as a fact that no definite consideration has been given by any city to the proposition to hold a drill, although Capt. Domer is in receipt of private advices to the effect that the crack companies will soon congregate at New Orleans to engage in friendly strife, and that drill teams have already begun practice in Omaha.

In a communication to The Star, E. C. Lewis, director general of the Tennessee Centennial Exposition Company, says: "The statement as to the holding of a competitive drill in Nashville is correct, but not during the coming spring or summer. The drill will be held the next spring, summer, or fall, as finally agreed upon, some time between May 1 and November 1, 1897."

It is thought that if no other city will undertake the drill for 1896 Indianapolis will come to the front rather than see the enterprise go by default. Then, in all likelihood, a drill will be held in St. Louis under the auspices of the St. Louis Fair Association, with the association cup, won last July by the Branch Guards, as a trophy, although Capt. Sinclair disposes of a popular rumor by saying: "St. Louis will have no competitive drill during the national republican convention."

A prominent officer of the District National Guard, speaking yesterday to a Star reporter on the subject, said: "It looks very much as though the year 1896 is going to prove an off year, as far as interstate drills are concerned, and it is not improbable that the Memphis meeting of last year will go down to history as the last of a long series of such events. Aside from the fact that none of the drill cities appear at all anxious for the honor this year, the recent action of the War Department in prohibiting officers of the army from acting as judges in competitive drills in the future is likely to operate as a serious deterrent. While it has been long known that the War Department is opposed to competitive drilling, and has used efforts to discourage it, it has heretofore winked at the practice, and has permitted army officers to attend such affairs as judges. But even this quasi recognition has come to an end.

"In a recent letter to Brigadier General Moore of the Missouri National Guard, the Secretary of War said: 'That while officers have been permitted or authorized to act as judges of competitive drills, they have not been ordered or detailed to perform such service. The Secretary realizes that even this practice is of no benefit to the great body of the National Guard, and is liable to have a bad effect, and therefore decides that it will be discontinued hereafter.'

"It is possible, of course, that judges can be selected in future from among officers of the National Guard who are thoroughly competent—perhaps far more so than the average army officer—but it is certain that their decisions would not be accepted with the same undisputed confidence as would those of the regulars."

Will Entertain Their Friends.

For the first time since taking possession of the new armory the members of company A, third battalion, will, this evening, entertain a number of lady friends in the quarters of the company on the second floor. The battalion headquarters room will be pressed into service, as will several locker rooms. The affair is to be in the form of a dance, and will be unique in that the arrangement of the dance program provides that each lady will dance with every cadet during the evening, but with each one only once. Other enjoyable features are to be provided, and refreshments will be in evidence. The floor has been specially prepared for dancing.

A Coming Company.

It is authoritatively stated that at the next monthly meeting of the first battalion the membership of company C, now in process of reorganization, will have reached the required quota of forty men. Then an election of officers will be ordered, and the knowing ones declare that the result will be the selection of second Lieutenant Jesse B. K. Lee of company B for captain; Quartermaster Sergeant S. P. House for first lieutenant, and Sergeant Major John A. Heydler for second lieutenant. With such a trio at the helm, the enthusiastic members state, the company, though it has recently been a little disfigured, cannot fail to forge to the front.

Notes.

Hereafter the office hour of the inspector general of rifle practice will be from 4 p.m. to 5 p.m., only, daily, at The Evening Star building. National guardsmen will, therefore, govern their visits accordingly.

Because of lack of a quorum, the meeting of the brigade board of examination, called for Wednesday evening last, was postponed until next month.

Capt. James E. Bell, inspector of rifle practice of the second regiment, will address the Rifle Association of the third battalion next Saturday evening on matters pertaining to rifle practice.

Because of the illness of Lieut. Glendie B. Young, Lieut. Hutterly acted as captain of the engineer corps' team in the battalion match Thursday evening last.

Handsome and tasty invitations have been issued by the Ordway Rifles for "An Ordie," to be given Tuesday evening, February 25, at the company rooms in the armory building. It is to be a stag affair, and an elaborate program has been arranged.

William Garrett and Pinckney W. Smith, both of whom have held commissions in the sixth battalion, have signified their intention of enlisting in company C, first battalion.

Company B, second battalion, will hold a stag party at its G street armory Monday evening next.

The committee having in charge the details as regards the proposed service medals, consisting of Major E. R. Campbell, Capt. James E. Bell and Lieut. Samuel H. Jacobson, will in a few days officially address the commanding general on the subject.

The second separate company is in receipt of a communication from Gen. Nelson A. Miles, congratulating the company on its success, and expressing appreciation of the honor conferred in selecting "Nelson A. Miles Cycle Infantry" as the distinctive name of the organization.

Company B, engineer corps, has taken possession of its new workshop. It is the intention of the company to construct a miniature railroad trestle at once.

It is definitely announced that beginning March 2 Convention Hall will be assigned to the National Guard Monday and Tuesday evenings of each week for drill purposes.

The address which was to have been delivered by Capt. Horton before the Officers' Association of the Second Regiment next week has been postponed until the March meeting of the organization. At the February meeting Sergt. Hodges of company D, fourth battalion, is to read a paper on "Military Law."

MODERN HOUSE INTERIORS.

A Unique Display Showing the Furnishing of a Parlor Floor.

A unique feature of the display of furniture in the establishment of W. B. Moses & Sons has just been completed, and is now ready for the inspection of the public and patrons of his enterprising firm. It consists of a suite of rooms representing those which are usually found on the first or parlor floor of a residence, and the scheme is carried out with a completeness that is believed to have never before been equaled in this country.

There is first an entrance hall; then come a drawing room, a library, a Turkish room and a dining room. All of these rooms are complete in the various details, are handsomely lighted and show the modern style that prevails in the decoration and furnishing of this portion of a residence. The framing about the doorways and windows and the treatment of the walls exhibit to advantage the woods and the decorations that are used.

An interesting detail in the drawing room is the filling of a window frame with a mirror, showing what an effective adjunct to a handsomely furnished room a device of this sort can be. Especial interest will be taken in the drawing room because of the rich furniture, which is in the style of Vernis Martin. The marquette floor shows off to advantage the gold furniture.

The library is finished in red, with furniture of inlaid wood, imported from France, and some fine pieces of East India black wood. An oriental atmosphere is readily recognized in the Turkish room, the walls of which are hung with rich Turkish hangings. There are luxurious divans and chairs, covered with Turkish scarfs and stuffs. The dining room is supplied with Flemish articles of furniture, and there is one piece which is looked upon with especial interest, as it is an old black oak linen press from a European monastery, and is said to be over one hundred and ten years old.

RELIEF WORK IN TRANSVAAL.

President Kruger Makes a Speech That is Well Received.

The latest estimates place the number of deaths from the explosion of dynamite at Viedendorp, near Johannesburg, South Africa, Wednesday evening, at 120, and about 400 persons more or less seriously injured. A number of the wounded have succumbed to their injuries. The white victims were chiefly of the poorer class of Boers. Whole families of white people were wiped out.

President Kruger has arrived from Pretoria. In a speech, he congratulated the inhabitants upon the splendid manner in which they have sunk all race feuds in the common endeavor to relieve the suffering resulting from the disaster. He added that he earnestly trusted that the good feeling which has arisen from a common sorrow may have permanent results and lead to a much better feeling in the future between the Boers and the Uitlanders.

The president's remarks have had a great effect upon the foreign population, and it is believed that the reforms in the internal administration of the Transvaal which have so long been advocated by the Uitlanders will shortly be inaugurated in a form which will give general satisfaction.

President Kruger has been chosen president of the relief committee, and he is directing the work of clearing the razed ground at Viedendorp and sheltering the thousands of people who have been rendered homeless by the terrible calamity.

All the corrugated iron available is sent to Johannesburg, and the work of erecting huts for the homeless has already commenced. The popular subscription raised in behalf of the distressed people already amounts to over $500,000.

Mr. Runyon's Remains Arrive.

The body of the late Theodore Runyon, ambassador to Germany, was on board the steamship Havel, which arrived at New York yesterday. The remains were conveyed to Newark, N. J., where they will lie in state in St. Paul's Methodist Episcopal Church until the funeral.

IN MUSICAL CIRCLES

Responses to the Circular of the Choral Society Coming In.

Those Who Will Assist at Mr. Wm. Waldecker's Testimonial—"Pinafore" by Amateurs—Other Items.

The concert to be given at the Academy of Music tomorrow night promises to be an event of unusual interest. Mr. Wm. Waldecker, for whose benefit the concert is given, is known as one of the best musicians in the city, although of late years he has devoted himself to his choir work and the direction of the Washington Saengerbund, one of the best, and probably the largest, of the German male singing organizations. His work with the bund has been earnest, sincere and efficient, and each concert has shown the improvement of the society under his capable direction. Now that a testimonial is to be given Mr. Waldecker, the Saengerbund has come forward, and will sing two numbers, Mohr's Hymnus, "Junchz end erhebt sich die Schoepfing" and Bren's "Fruehling am Rhein," the latter without accompaniment. Donch's orchestra will be heard in Reissiger's overture, "The Mill on the Cliff," "Entrance of the Guests Into the Wartburg," from Wagner's "Tannhaeuser," and Resch's "Festival March." Mr. Herman C. Rakemann, the first violin soloist in the District, will play the andante and scherzo from Godard's Sonata Opus 9 and Vieuxtemps "Reverie," to both of which Mr. Waldecker will furnish the piano accompaniment, and Mr. Waldecker will himself play Raff's "La Fileuse," Rubinstein's "Kamenoi-Ostrow" and with Miss Alice Burbage Saint-Saens' variations on a theme of Beethoven. The vocal soloists will be Miss Mae B. Whitesell, who will sing "Farewell: Have Faith," from Ambroise Thomas' "Hamlet," and, with Miss Margaret Eichhorn, the "Quis est Homo," from Rossini's "Stabat Mater;" Mr. Wm. D. McFarland, who will give the Meyer-Helmund "Gondolier's Song;" Mr. Frank A. Rebstock, whose number is Victor Herbert's "When Bugles Are Calling," and these four will sing the celebrated quartet from "Rigoletto." This program shows the excellent entertainment that Mr. Waldecker will present to his friends.

The Choral Society directors are gratified at the responses that have been received thus far in response to the circular sent out to the friends of the organization, the substance of which was published in The Star last week. Nothing like the amount required to set the society on its feet has been received, but there are many yet to be heard from, and the kindly expressions of some of those who have already replied give encouragement that the good work and lofty aims of the society are appreciated in the community.

The ever popular comic opera "H. M. S. Pinafore" will be given next Thursday and Friday evenings and Saturday matinee, for the benefit of the Mt. Pleasant Field Band and the East Washington Charitable Association, at the National Rifles' Armory Hall. The performance will be under the direction of Prof. Geo. W. Lawrence, assisted by a very strong company of singers, and everything is being done to make the affair a success. The sale of tickets is very large, and the company no doubt will be greeted with packed houses at every performance. The cast of the opera is as follows: Sir Joseph Porter, K. C. B., Wm. de Ford; Capt. Corcoran, E. H. Pandert; Ralph Rackstraw, Geo. W. Lawrence; Dick Deadeye, N. Howlings; Boatswain, Chas. E. Bell; Boatswain's Mate, Harry Mallet; Midshipmite, Fred. Burke; Corporal, Louis Stolp; Josephine, Mrs. Milton Odell and Miss Eleanor C. Burger, alternately; Cousin Hebe, Miss Eva Whitford; Buttercup, Mrs. Adelia Taylor; sisters, cousins, aunts and sailors. The tickets have been placed on sale at Sanders & Stayman's. This opera is the most successful of any of the joint productions of Gilbert and Sullivan, and its presentation in this city has always been warmly welcomed.

Mr. Wm. A. Haley, the leader of the new Washington Military Concert Band, will not give his next concert until after Lent, but then he will present a program that will surpass all previous efforts. He proposes to show some novel effects in band music, and it is likely that the band will then demonstrate its ability to play accompaniments to a singer.

W. A. Domer has resigned the position of director and bass of the St. Paul's English Lutheran Church quartet choir, to take effect March 1. Mr. Jacob Scharf, the tenor, and Mrs. Wm. A. Domer, the soprano, have also tendered their resignations, to take effect at the same time.

Mr. Victor Johnson, the director of the Lafayette Square Opera House orchestra, has just published the "Lafayette March," which is a very attractive composition, and is dedicated to the new theater and to its manager, Mr. John W. Albaugh. The frontispiece is printed in blue ink and finished with a good likeness of Mr. Albaugh and his theater. Mr. Johnston has also written a march called "Beau Brummel," and dedicated it to Mr. Harry C. Fisk, also of the Lafayette Square Theater. It has a catchy theme and is quite pleasing.

An entertainment was recently given at Rocky Mount, N. C., for the benefit of the Vance monument fund, in which Miss Mamie Donnelly of this city participated, and the Wilmington Messenger speaks in high terms of her work, referring to her as "an artist of exquisite beauty and accomplishments," who contributed largely to the success of the entertainment.

All the Catholic church choirs will give special musical programs during Lent, and at St. Patrick's Church there will be a change in the hour of vespers from 4 to 7:30 p.m. It is the intention of Prof. Maina, the director of the choir, to give the "Inflammatus" and other selections from Rossini's "Stabat Mater" during the Lenten season, the large and efficient choir affording good material for this, as well as other compositions of a similar character.

LANGDON.

Postmaster O. T. Putnam is quite ill.

Officer Wannell has completed the foundation to his new house on Frankfort street.

Mr. and Mrs. Frank Bowden have moved to Washington.

The scholars of Langdon school celebrated Washington's birthday with appropriate patriotic songs and recitations. The school room was beautifully decorated with flags. The exercises opened with the singing of "America" by the school. Miss Seisson, teacher in charge, then spoke upon the patriotism and character of Washington, which was followed with short recitations by Susie Morgan, Ethel Baker, Elsie Brown, Olive McNeal, Ethel Watson, Bessie Haskell, Walter Brown and Harry Macauley. Five little girls sang the refrain of the "Star Spangled Banner," the whole school joining in the chorus, which closed the events of the day.

Last Monday evening Mr. and Mrs. I. J. Baker entertained the Langdon Whist Club at their charming home, on 22d street. Besides the regular members of the club, Capt. and Mrs. Bartlett, Mr. and Miss King, Mr. and Mrs. McNeal and Mr. and Mrs. I. J. Baker, all of whom were present, were several guests, Miss Anna Marshall of Washington, Mrs. Brown of Warsaw, N. Y.; Mr. R. C. Walton and Mr. E. Massey. After twenty-four closely contested games of duplicate whist, dainty refreshments were served. The table and dining room were artistically decorated with white pinks and lilies of the valley, intermingled with ferns and smilax.

The marriage of Dr. Thomas H. Sherwood and Miss Mary A. Phoebus, both of Winthrop Heights, D. C., took place Thursday evening, February 20.

SHOT DOWN BY HIS SON.

Tragedy on the Streets of Nashville Yesterday.

E. R. Campbell, ex-clerk of the United States district court, was shot and killed by his son, Robert Campbell, at Nashville, Tenn., yesterday. Young Campbell has been regarded as mentally unsound for some time.

Mr. Campbell was walking on North Vine street with his son, E. R. Campbell, jr., when the latter suddenly drew a revolver and shot his father just over the right ear, the bullet entering the brain. Mr. Campbell fell and expired instantly. Young Campbell was immediately taken into custody and conveyed to the police station.

He is twenty-six years old, and had been a patient at private sanitariums in Michigan and Tennessee at different times. It is thought the killing was due to the belief on the part of young Campbell that his father intended to send him back to an asylum for treatment. Deceased had been clerk of the United States district court for many years, and was well known.

Killed Her Two Children.

While temporarily insane Mrs. Ethel Kelso, wife of George Alfred Kelso, business manager of Martin & Brown's printing establishment of New York, killed her two children, Ethel, aged four, and George, aged two, in that city Thursday, and then attempted suicide. From the circumstances surrounding the case it is believed that Mrs. Kelso had deliberately planned to commit suicide, but that she did not at first intend to kill her children, and that their murder was due to a sudden impulse as a result of homicidal mania with which she was afflicted.

Gen. Harrison Comes East.

Gen. Benjamin Harrison left Indianapolis yesterday for New York, accompanied by his secretary. It is understood that this will be General Harrison's last trip to New York until next April, when he and Mrs. Dimmick will be married. Gen. Harrison will return to Indianapolis next week. Many artists have made sketches of the Harrison homestead preparatory to the marriage story, but requests for interior views have been refused.